

$$19) \frac{2}{3} + 5^2$$

$$5^2 + \frac{2}{3}$$

$$3x^5$$

$$20) \frac{2x^4 + 4x - 5}{4}$$

$$\frac{2x^4}{2} + \frac{4x}{4} - \frac{5}{4}$$

$$\frac{1}{2}x^4 + x - \frac{5}{4}$$

$$21) \frac{3 - z^5}{3}$$

$$\frac{3}{3} - \frac{z^5}{3}$$

$$1 - \frac{z^5}{3}$$

$$\frac{1}{3}z^5 + 1$$

Bellwork: 2/7/13

Put the function in standard form. Then determine the degree, number of terms, end behavior and number of u-turns.

1) $y = (2x^2 - 5)(x^2 - 1)$

$$2x^4 - 2x^2 - 5x^2 + 5$$

$$2x^4 - 7x^2 + 5$$

Stand. Form: $2x^4 - 7x^2 + 5$

Degree: 4 Terms: 3

End. Beh: $\uparrow\uparrow$ U-turns: 3

even \oplus

Graphing Polynomials in Factored Form:

answers = roots
= zeroes
= x intercepts

1) $y = (x+2)(x-1)(x-3)$

Step 1: Find the roots ^{x intercepts}
 $x+2=0$ $x-1=0$ $x-3=0$
 $x=-2$ $x=1$ $x=3$

Step 2: Find y-intercept ($x=0$)

$$(0+2)(0-1)(0-3)$$
$$(2)(-1)(-3)$$

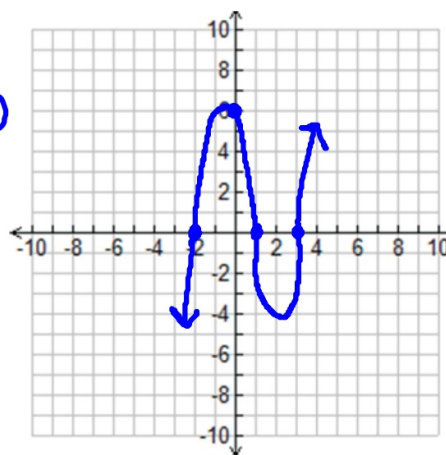
$$y = 6$$

$(0, 6)$

Step 3: Determine end behavior

$$1x^3$$
 odd \oplus $\downarrow\uparrow$

2 turns



Graph!

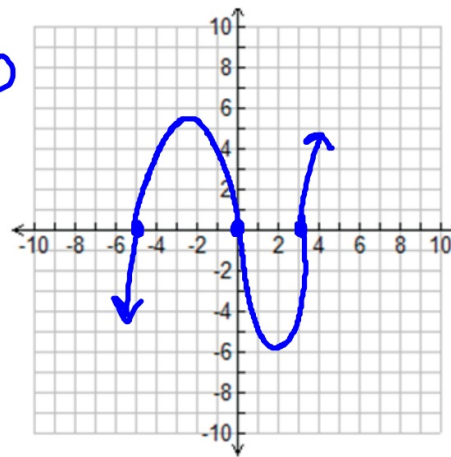
2) $y = x(x-3)(x+5)$

roots: $x=0$ $x-3=0$ $x+5=0$

$x=0$ $x=3$ $x=-5$

y int: $0(0-3)(0+5)$
 $(0,0)$

EB: $|x^3$
 odd \oplus $\downarrow \uparrow$
 2 turns



3) $y = (x-1)(x-2)(x+4)(x+1)$

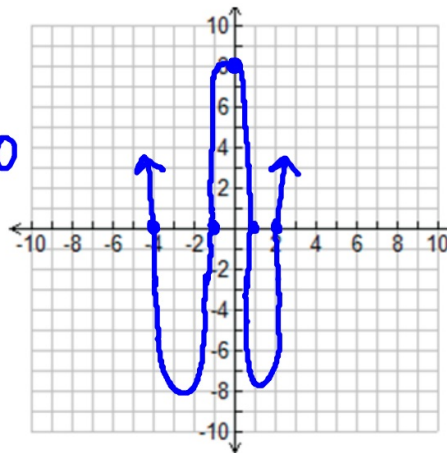
roots:

$x-1=0$ $x-2=0$ $x+4=0$ $x+1=0$

$x=1$ $x=2$ $x=-4$ $x=-1$

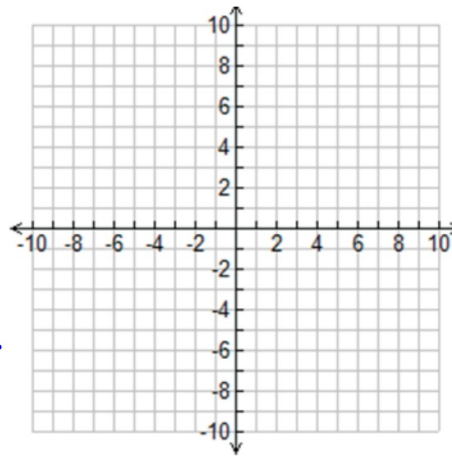
y int: $(0-1)(0-2)(0+4)(0+1)$
 $(0,8)$

EB: $|x^4$ even \oplus
 $\uparrow \uparrow$ 3 turns

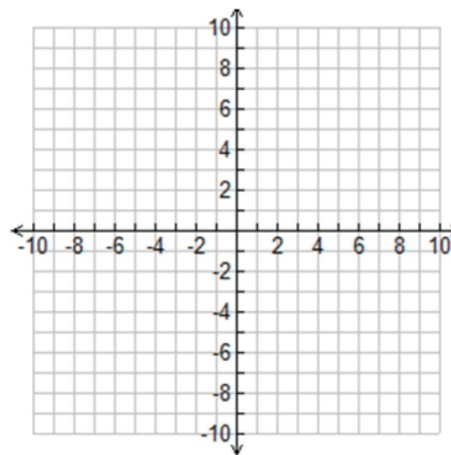


4) $y = -x(x-3)(x+7)$

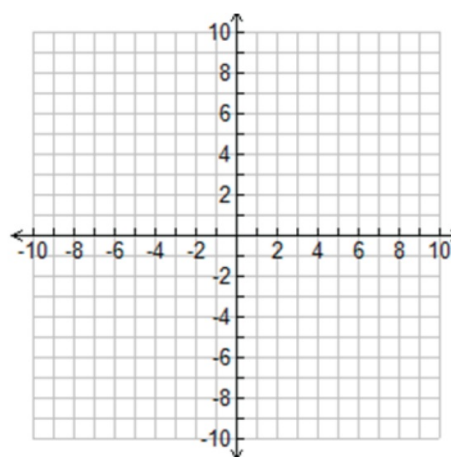
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IS
Homework



5) $y = -x(x-1)(x+1)(x-5)$



6) $y = (x+1)(x-2)(x-3)(x+3)(x-1)$



Homework: pg 293 #13-18

